NTIA Space Record Data Form

NTIA requires the following data for space related experiments using government shared spectrum. For each transmit frequency, please provide the data for both ends of the transmit-receive link. Use Part A to describe the satellite to ground information. Part B is for all ground to space transmit links. Part C is for all space to space transmit links.

Part A: Space to Earth Downlink Data

Transmit Frequency: 400.45 – 400.55 MHz		
Satellite Name: M-SEL (Transmitter 1)		
Polarization (XAP)	XAP = XAP01 J	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = XAZ01 EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN(dBi) 2 dBi BEAMWIDTH@ ½ Power 180 degrees XAD = XAD01 02G0180B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.5

		8H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.4 6H01NRR01
Earth Station Data – Leaf Space – Santa Maria		
State (RSC)	RSC = Portugal	
City Name (RAL)	RAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951 N	
Longitude (DDDMMSS)	Lon = 0250810 W	
Antenna Polarization (RAP)	RAP = RAP01 J	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ01 V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 15.4 dBi, BEAMWIDTH@ ½ Power 20 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 200 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 12 meters RAD = RAD01 15G020B000-360A00200H012	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
Earth Station Data – Leaf Space - Lamazzo		
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Lamazzo	

Latitude (DDMMSS)	Lat = 454150 N	
Longitude (DDDMMSS)	Lon = 0090205 E	
Antenna Polarization (RAP)	RAP = RAP02 J	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ02 V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 14.8 dBi, BEAMWIDTH@ ½ Power 40 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 313 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 24 meters RAD = RAD02 15G040B000-360A00313H024	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
Earth Station Data – Leaf Space - Vimercate		
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Vimercate	
Latitude (DDMMSS)	Lat = 453536 N	
Longitude (DDDMMSS)	Lon = 0092144 E	
Antenna Polarization (RAP)	RAP = RAP03 J	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION

Antenna Azimuth (RAZ)	RAZ = RAZ03 V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 14.8 dBi, BEAMWIDTH@ ½ Power 40 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 190 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 12 meters RAD = RAD03 15G040B000-360A00190H012	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
Earth Station Data – Leaf Space - Kaspichan		
State (RSC)	RSC = Bulgaria	
City Name (RAL)	RAL = Kaspichan	
Latitude (DDMMSS)	Lat = 431849 N	
Longitude (DDDMMSS)	Lon = 0270927 E	
Antenna Polarization (RAP)	RAP = RAP04 J	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ04 V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 14.8 dBi, BEAMWIDTH@ ½ Power 40 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 97 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 8 meters RAD =	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

	RAD04 15G040B000-360A00097H008	
Earth Station Data – RBC Signals - Pretoria		
State (RSC)	RSC = South Africa	
City Name (RAL)	RAL = Pretoria	
Latitude (DDMMSS)	Lat = 255139 S	
Longitude (DDDMMSS)	Lon = 0282712 E	
Antenna Polarization (RAP)	RAP = RAP05 J	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ05 V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 16.2 dBi, BEAMWIDTH@ ½ Power 40 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 1391 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 meters RAD = RAD05 16G040B000-360A01391H006	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (MITRE)		

Transmit Frequency: 1.525-1.559 GHz		
Satellite Name: M-SEL (Transmitter 2)		
Polarization (XAP)	XAP = XAP02 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR,

		T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = XAZ02 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN(dBi) 7 dBi BEAMWIDTH@ ½ Power 50 degrees XAD = XAD04 07G050B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01
Earth Station Data – MITRE Corporation Bedford MA USA (Receiver 6)		
State (RSC)	RSC = Massachusetts USA	
City Name (RAL)	RAL = Bedford	
Latitude (DDMMSS)	Lat = 423018 N	

Longitude (DDDMMSS)	Lon = 0711407 W	
Antenna Polarization (RAP)	RAP = RAP06 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ06 V25	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 17 dBi, BEAMWIDTH@ ½ Power 7 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 77 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 3 meters RAD = RAD06 17G007B000-360A00077H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (MITRE)		

Transmit Frequency: 2.170-2.200 GHz		
Satellite Name: M-SEL (Transmitter 3)		
Polarization (XAP)	XAP = XAP03 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = XAZ03 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN(dBi) 9 dBi BEAMWIDTH@ ½ Power 40 degrees	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)

	XAD = XAD03 09G040B	
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01
Earth Station Data – MITRE Corporation Bedford MA USA (Receiver 7)		
State (RSC)	RSC = Massachusetts USA	
City Name (RAL)	RAL = Bedford	
Latitude (DDMMSS)	Lat = 423018 N	
Longitude (DDDMMSS)	Lon = 0711407 W	
Antenna Polarization (RAP)	RAP = RAP07 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR,

		T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ07 V25	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 21 dBi, BEAMWIDTH@ ½ Power 5 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 77 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 3 meters RAD = RAD07 21G005B000-360A00077H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (MITRE)		

Transmit Frequency: 2.4835-2.520 GHz		
Satellite Name: M-SEL (Transmitter 4)		
Polarization (XAP)	XAP = XAP04 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = XAZ04 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN(dBi) 11 dBi BEAMWIDTH@ ½ Power 35 degrees XAD = XAD04 11G035B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS

		LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01
Earth Station Data – MITRE Corporation Bedford MA USA (Receiver 08)		
State (RSC)	RSC = Massachusetts USA	
City Name (RAL)	RAL = Bedford	
Latitude (DDMMSS)	Lat = 423018 N	
Longitude (DDDMMSS)	Lon = 0711407 W	
Antenna Polarization (RAP)	RAP = RAP08 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ08 V25	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00

Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 24 dBi, BEAMWIDTH@ ½ Power 4 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 77 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 3 meters RAD = RAD08 24G004B000-360A00077H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (MITRE)		

Transmit Frequency: 4.90-4.99 GHz		
Satellite Name: M-SEL (Transmitter 5)		
Polarization (XAP)	XAP = XAP05 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = XAZ05 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN(dBi) 17 dBi BEAMWIDTH@ ½ Power 20 degrees XAD = XAD05 17G020B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6,	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE

	THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01
Earth Station Data – MITRE Corporation Bedford MA USA (Receiver 09)		
State (RSC)	RSC = Massachusetts USA	
City Name (RAL)	RAL = Bedford	
Latitude (DDMMSS)	Lat = 423018 N	
Longitude (DDDMMSS)	Lon = 0711407 W	
Antenna Polarization (RAP)	RAP = RAP09 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ09 V25	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 29 dBi, BEAMWIDTH@ ½ Power 2 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 77 meters	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

	THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 3 meters RAD = RAD09 29G002B000-360A00077H003	
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (MITRE)		

Transmit Frequency: 6.875-7.055 GHz		
Satellite Name: M-SEL (Transmitter 6)		
Polarization (XAP)	XAP = XAP06 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = XAZ06 EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN(dBi) 9 dBi BEAMWIDTH@ ½ Power 65 degrees XAD = XAD06 09G065B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.5

		8H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01
Earth Station Data – MITRE Corporation Bedford MA USA (Receiver 10)		
State (RSC)	RSC = Massachusetts USA	
City Name (RAL)	RAL = Bedford	
Latitude (DDMMSS)	Lat = 423018 N	
Longitude (DDDMMSS)	Lon = 0711407 W	
Antenna Polarization (RAP)	RAP = RAP10 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ10 V25	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN(dBi) 36 dBi, BEAMWIDTH@ ½ Power 2 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 77 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 3 meters RAD = RAD10 36G002B000-360A00077H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (MITRE)		

Part B: Ground Stations, Earth to Space link data:

Transmit Frequency: 2025-2110 MHz		
Earth Station Data – Leaf Space – Santa Maria		
State (XSC)	XSC = Portugal	
City Name (XAL)	XAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951 N	
Longitude (DDDMMSS)	Lon = 0250810 W	
Antenna Polarization (XAP)	XAP = XAP01 R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ = XAZ01 V05	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN(dBi) 19 dBi, BEAMWIDTH@ ½ Power 20 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 200 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 12 meters XAD = XAD01 19G020B000-360A00200H012	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
Earth Station Data – Leaf Space - Vimercate		
State (XSC)	XSC = Italy	
City Name (XAL)	XAL = Vimercate	
Latitude (DDMMSS)	Lat = 453536 N	
Longitude (DDDMMSS)	Lon = 0092144 E	
Antenna Polarization (XAP)	XAP = XAP02 R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL,

		L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ = XAZ02 V05	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN(dBi) 34 dBi, BEAMWIDTH@ ½ Power 3 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 190 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 12 meters XAD = XAD02 34G003B000-360A00190H012	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
Earth Station Data – Leaf Space - Kaspichan		
State (XSC)	XSC = Bulgaria	
City Name (XAL)	XAL = Kaspichan	
Latitude (DDMMSS)	Lat = 431849 N	
Longitude (DDDMMSS)	Lon = 0270927 E	
Antenna Polarization (XAP)	XAP = XAP03 R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ = XAZ03 V05	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN(dBi) 34 dBi, BEAMWIDTH@ ½ Power 3 degrees, AZIMUTHAL RANGE 0-360 degrees,	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

	THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 97 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 8 meters XAD = XAD03 34G003B000-360A00097H008	
Earth Station Data – RBC Signals - Pretoria		
State (XSC)	XSC = South Africa	
City Name (XAL)	XAL = Pretoria	
Latitude (DDMMSS)	Lat = 255139 S	
Longitude (DDDMMSS)	Lon = 0282712 E	
Antenna Polarization (XAP)	XAP = XAP04 R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ = XAZ04 V05	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN(dBi) 39 dBi, BEAMWIDTH@ ½ Power 1 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 1391 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 6 meters XAD = XAD04 39G001B000-360A01391H006	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (MITRE)		
Satellite Station Data – M-SEL (Receiver 1)		
Polarization (RAP)	RAP = RAP01 R	POLARIZATIONS INCLUDE : H = HORIZONTAL,

		V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (RAZ)	RAZ = RAZ01 EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (RAD)	ANTENNA GAIN(dBi) 4 dBi BEAMWIDTH@ ½ Power 120 degrees RAD = RAD01 04G120B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01

Transmit Frequency: 1.98-2.01 GHz
Earth Station Data – MITRE Corporation Bedford MA USA (Transmitter 5)

State (XSC)	XSC = Massachusetts USA	
City Name (XAL)	XAL = Bedford	
Latitude (DDMMSS)	Lat = 423018 N	
Longitude (DDDMMSS)	Lon = 0711407 W	
Antenna Polarization (XAP)	XAP = XAP05 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ = XAZ05 V25	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN(dBi) 20 dBi, BEAMWIDTH@ ½ Power 5 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 77 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 3 meters XAD = XAD05 20G005B000-360A00077H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
Satellite Station Data – M-SEL (Receiver 2)		
Polarization (RAP)	RAP = RAP02 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (RAZ)	RAZ = RAZ02 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (RAD)	ANTENNA GAIN(dBi) 8 dBi BEAMWIDTH@ ½ Power 40 degrees	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)

	RAD = RAD02 08G040B0	
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01

Transmit Frequency: 2.67-2.29 GHz		
Earth Station Data – MITRE Corporation Bedford MA USA (Transmitter 6)		
State (XSC)	XSC = Massachusetts USA	
City Name (XAL)	XAL = Bedford	
Latitude (DDMMSS)	Lat = 423018 N	
Longitude (DDDMMSS)	Lon = 0711407 W	
Antenna Polarization (XAP)	XAP = XAP06 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL,

		S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ = XAZ06 V25	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN(dBi) 24 dBi, BEAMWIDTH@ ½ Power 4 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 77 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 3 meters XAD = XAD06 24G004B000-360A00077H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
Satellite Station Data – M-SEL (Receiver 3)		
Polarization (RAP)	RAP = RAP03 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (RAZ)	RAZ = RAZ03 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (RAD)	ANTENNA GAIN(dBi) 12 dBi BEAMWIDTH@ ½ Power 30 degrees RAD = RAD03 12G030B0	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR

		RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01

Transmit Frequency: 4.90-4.99 GHz		
Earth Station Data – MITRE Corporation Bedford MA USA (Transmitter 7)		
State (XSC)	XSC = Massachusetts USA	
City Name (XAL)	XAL = Bedford	
Latitude (DDMMSS)	Lat = 423018 N	
Longitude (DDDMMSS)	Lon = 0711407 W	
Antenna Polarization (XAP)	XAP = XAP07 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ = XAZ07 V25	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00

Antenna Dimensions (XAD)	ANTENNA GAIN(dBi) 29 dBi, BEAMWIDTH@ ½ Power 2 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 77 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 3 meters XAD = XAD07 29G002B000-360A00077H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
Satellite Station Data – M-SEL (Receiver 4)		
Polarization (RAP)	RAP = RAP04 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (RAZ)	RAZ = RAZ04 EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (RAD)	ANTENNA GAIN(dBi) 9 dBi BEAMWIDTH@ ½ Power 70 degrees RAD = RAD04 09G070B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1,	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE,

	ORB = 97IN00510AP00510PE001.6H01NRT01	REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01

Transmit Frequency: 5.25-5.35 GHz		
Earth Station Data – MITRE Corporation Bedford MA USA (Transmitter 8)		
State (XSC)	XSC = Massachusetts USA	
City Name (XAL)	XAL = Bedford	
Latitude (DDMMSS)	Lat = 423018 N	
Longitude (DDDMMSS)	Lon = 0711407 W	
Antenna Polarization (XAP)	XAP = XAP08 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ = XAZ08 V25	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN(dBi) 29 dBi, BEAMWIDTH@ ½ Power 2 degrees, AZIMUTHAL RANGE 0-360 degrees, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 77 meters THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 3 meters XAD = XAD08 29G002B000-360A00077H003	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

Satellite Station Data – M-SEL (Receiver 5)		
Polarization (RAP)	RAP = RAP05 T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (RAZ)	RAZ = RAZ05 EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (RAD)	ANTENNA GAIN(dBi) 9 dBi BEAMWIDTH@ ½ Power 70 degrees RAD = RAD05 09G070B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 97 degrees, APOGEE IN KILOMETERS 510 km, PERIGEE IN KILOMETERS 510 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.6, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = 97IN00510AP00510PE001.6H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01
